z/OSMF Software Management Hands-On Lab

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Agenda

• Lab Objective
• z/OSMF Software Management Overview
• Lab Environment
• Lab Exercises
  1. Logon to z/OSMF and invoke software management
  2. Change the Software Management specific “Settings”
  3. View the “Master” Software Instances
     a. Their Products, Features, and FMIDs
     b. Additional Product Information
     c. Properties
     d. Data sets (filtering by attribute)
  4. Report on the “Master” Software Instances
     a. End of Service
     b. SYSMOD Search
     c. Missing FIXCAT SYSMODs
     d. Missing Critical Fixes
     e. Software Instance Comparison
     f. Software Instance Validation
  5. Report on Products
Lab Objective

- Use z/OSMF to view and report on previously defined software instances
- Gain familiarity in using the z/OSMF application

Hints and Tips

- At any time you can use the Help facilities by clicking on the link in the upper right hand corner of the screen
- You are encouraged to follow the instructions provided, but you can use the new views and reports on any defined software instance
  - Please note that the closer you follow the instructions, the easier it will be to assist you if you go astray
  - The handout contains screen captures and guidance to lead you through the lab
- Please note: Do NOT use the Browser BACK button to go to the prior screen!!!
Software Management

- z/OSMF V1.13 introduced a Software Deployment function
  - Introduced a concept of a software instance
- IBM introduced a Software Management task that extends the Software Deployment task to provide additional actions on software instances.
  - z/OSMF PTFs UK79887, UK83841, UK83825, UK83828, UK83833, UK83836, UK83842, and UK83852
    - These PTFs provide additional new function beyond Software Management
- See [http://www-03.ibm.com/systems/z/os/zos/zosmf/enhancements.html](http://www-03.ibm.com/systems/z/os/zos/zosmf/enhancements.html) for more information
  - Installation requires reconfiguration of z/OSMF
- Requisite z/OS SMP/E PTF UO01422
In addition to deploying a software instance, the Software Management task will:

- Allow inspection of a software instance to view the product, feature, and FMID content;
- View the physical data sets that compose a software instance; and
- Perform actions to analyze and report on software instances and installed products.
  - Identify software products that are approaching, or have reached, end of service support.
  - Validate the SMP/E structure and content of a software instance is correct.
  - Identify missing HIPER and PE fixes, and fixes associated with one or more fix categories.
  - Determine if individual fixes are installed and in which software instances.
  - Compare the service and functional content of two software instances to aid in debugging or migration planning.
Software instances can be viewed or deployed throughout your enterprise.
Lab SMP/E Environment

Four (4) “Master” Software Instances

1. MASTER_ZOSV1.12
2. MASTER_SMPEV3.6_WITHOUT_PTFs
3. MASTER_SMPEV3.6_WITH_PTFs
4. MASTER_zOS_R13_w/Other_Products

ZOSMF.SWDEPLOY.GLOBAL.CSI

SMLAB01.GLOBAL.CSI

TGT zone | DLIB zone
---|---
Z1130T | Z1130D
COB320T | COB320D
PLI410T | PLI410D
DT910T | DT910D
Step 1: Logon to z/OSMF and invoke Software Management
Starting the Lab – Log in to z/OSMF

- Launch the Mozilla Firefox browser
  - Note: If browser asks to add exception for certificate, do so

- Point Browser to z/OSMF – enter the following url
  - https://mvs1.centers.ihost.com:32208/zosmf/
  - Note: Ignore and close the warning message
    - IZUG809W Unsupported Web browser version or level found: "3.6.13 (.NET CLR 3.5.30729)". Some z/OSMF functions might not be available if you continue.

- Login with SHARE userid/pw as provided by the lab instructor.
  - Each workstation has been assigned a unique z/OS User ID
    - MFUSRnn (where nn is 01 - 20)
    - Password: to be provided

- Each User ID has been authorized to all the z/OSMF applications (Plug-ins)
To log in you will need a z/OS user ID that has been defined and enabled for z/OSMF (and the WebSphere® runtime environment)

Guidance is provided.
Welcome to IBM z/OS Management Facility

IBM® z/OS® Management Facility (z/OSMF) provides a framework for managing various aspects of a z/OS system through a Web browser interface. By streamlining some traditional tasks and automating others, z/OSMF can help to simplify some areas of z/OS system management.

To learn more about z/OSMF, visit the links in the Learn More section.

To start managing your z/OS systems, select a task from the navigation area.

Learn More:
- What's New
- z/OSMF tasks at a glance
- Getting started with z/OSMF

Expand Software
Click on Software Management

You can also click on “About” or a “Learn More” topic
Step 2: Change the Software Management specific “Settings”
Before you change the Settings, you will attempt to view Products, Features, and FMIDs for all the “Master” software instances. You will need to change the settings to see all the data.

The Software Management task, previously named the Deployment task, contains the software deployment functions along with additional software management functions. The Software Management task helps you streamline the software management process by providing a centralized location that you can use to manage your z/OS software.
Software Management

Use this task to view details about your software inventory, including related products, features, FMIDs, data sets, deployments, and SYSMODs. Learn more.

- **Software Instances**: Define your software to z/OSMF; deploy software; generate reports about your software.
- **Products**: View a consolidated list of the products included in each software instance.
- **Deployments**: Deploy a software instance, and manage existing deployments.
- **Categories**: Create new categories for your software instances and deployments, and manage existing categories.
- **Settings**: Select the time zone in which to display date and time data. Indicate whether to display or suppress information messages.
You will see a list of software instances already defined:

- **Source Software Instance for Software Deployment Lab**
- **Other Software Instance used to check dependencies in the Software Deployment Lab**
- **“Extra” Software Instance**
- **Software Instance created for the Software Management Lab**
For this lab, you will focus on the Software Instances whose names begin with “MASTER”

Click on Filter under Name

<table>
<thead>
<tr>
<th>Name</th>
<th>System</th>
<th>Messages</th>
<th>Description</th>
<th>Activity</th>
<th>Global Zone CSI</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>MASTER_SMPEV3.6_WITH_PTF S</td>
<td>LOCAL</td>
<td>Filter</td>
<td>Source Software Instance for the z/OSMF Software Deployment Lab. This instance contains the SMP/E V3.6 product with PTFs.</td>
<td></td>
<td>ZOSMF.SWDEPLOY.GLOBAL.CS TSMP3</td>
<td></td>
</tr>
<tr>
<td>MASTER_SMPEV3.6_WITHOUT_PTF S</td>
<td>LOCAL</td>
<td>Filter</td>
<td>Source Software Instance for the z/OSMF Software Deployment Lab. This instance contains the SMP/E V3.6 product without any PTFs.</td>
<td></td>
<td>ZOSMF.SWDEPLOY.GLOBAL.CS TSMP3</td>
<td></td>
</tr>
<tr>
<td>MASTER_ZOSV1.12</td>
<td>LOCAL</td>
<td></td>
<td>Source Software Instance for the z/OSMF Software Deployment Lab. This instance contains z/OS V1R12 at RSU110.</td>
<td></td>
<td>ZOSMF.SWDEPLOY.GLOBAL.CS TGTZ1:</td>
<td></td>
</tr>
<tr>
<td>DEMO_SMPEV3.6_WITH_PTF S</td>
<td>LOCAL</td>
<td>12UD8091</td>
<td>Completed demo software instance, of SMP/E V3.6 with PTFs.</td>
<td></td>
<td>ZOSMF.SWDEPLOY.GLOBAL.CS TSMP3</td>
<td></td>
</tr>
<tr>
<td>MASTER_zOS_R13 w/Other Product</td>
<td>LOCAL</td>
<td></td>
<td>z/OS V1.13 with over 20 other products to be used during the z/OSMF Software Management</td>
<td></td>
<td>SMLAB01.GLOBAL.CSI</td>
<td>C0B32 PL4103</td>
</tr>
</tbody>
</table>

Total: 5, Selected: 0

Refresh Last refresh: Jan 14, 2013 10:34:37 AM

Close
Enter “Master” to only display the *MASTER* software instances
Note: It does not have to be case sensitive

Then click OK
Click Actions, then Select All

Only the software instances that contain “MASTER” are now displayed.
All the software instances are now selected

Click Actions, then View, then Products, Features, and FMIDs
Message IZUD230W is generated stating that the display will exceed 750 rows. You will change the Settings to allow more rows to be displayed.

After reviewing the message, click Software Management.

Optionally, you can click on the message to get more details.
Software Management

Use this task to view details about your software inventory, including related products, features, FMIDs, data sets, deployments, and SYSMODs. Learn more...

Software Instances
- Define your software to z/OSMF; deploy software; generate reports about your software.

Products
- View a consolidated list of the products included in each software instance.

Deployments
- View a consolidated list of the products included in each software instance.

Categories
- Create new categories for your software instances and deployments, and manage existing categories.

Settings
- Select the time zone in which to display date and time data. Indicate whether to display or suppress information messages.

Click on Settings

Previous  Highlight all  Match case
Change the maximum number of rows to display to 2000 (or higher), and click OK.
Step 3a: View the “Master” Software Instances’ Products, Features, and FMIDs
You will now view ALL the “Master” software instances’ Product, Feature, and FMIDs.

Click on Software Instances (again)
Notice that the Name Filter is still set and that ONLY Software Instances that contain “Master” are displayed.

<table>
<thead>
<tr>
<th>Name</th>
<th>System</th>
<th>Messages</th>
<th>Description</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>MASTER_SMPEV3.6_WITH_PTFs</td>
<td>LOCAL</td>
<td>Filter</td>
<td>Source Software Instance for the z/OSMF Software Deployment Lab. This instance contains the SMP/E V3.6 product with PTFs.</td>
<td>Z</td>
</tr>
<tr>
<td>MASTER_SMPEV3.6_WITHOUT_PTFs</td>
<td>LOCAL</td>
<td>Filter</td>
<td>Source Software Instance for the z/OSMF Software Deployment Lab. This instance contains the SMP/E V3.6 product without any PTFs.</td>
<td>Z</td>
</tr>
<tr>
<td>MASTER_ZOSV1.12</td>
<td>LOCAL</td>
<td></td>
<td>Source Software Instance for the z/OSMF Software Deployment Lab. This instance contains z/OS V1R12 at RSU1105.</td>
<td>Z</td>
</tr>
<tr>
<td>MASTER_zOS_R13_w/Other_Product</td>
<td>LOCAL</td>
<td></td>
<td>z/OS V1.13 with over 20 other products to be used during the z/OSMF Software Management Lab</td>
<td>S</td>
</tr>
</tbody>
</table>
You are going to display Products, Features, and FMIDs for all Software Instances that contain “Master” (again).

Click Actions, then Select All (again)
The View Products, Features, and FMIDs Action will produce similar information to the SMP/E Planning Migration Assistant Products Applied report, or SMP/E List commands. However, this action:

- Will display additional information, not available through batch SMP/E
- Can be performed against multiple software instances at the same time
- Can be performed against software instances throughout your enterprise
- Will enable you to:
  - Sort and filter the results to hone in on what you are looking for
  - Click on a link to find additional information on the product
  - Perform “drill down” actions on selected objects

You can use this information to identify which products need to be ordered for a future upgrade, to determine if you have the prerequisites installed for a specific function, and to provide evidence of what is installed to an auditor, procurement team, or operations staff.
This time all the software instances can be viewed. No more message IZUD230W.
Click Actions, then Expand All
The products, features and FMIDs are listed in a tree table.

You can scroll right.
The General Availability date, End of Service dates, and Additional Product Information are not available in batch SMP/E reports.

<table>
<thead>
<tr>
<th>Software Instance / Product / Feature / FMID</th>
<th>System</th>
<th>General Availability</th>
<th>End of Service</th>
<th>Additional Product Information</th>
<th>Product Information File Version</th>
<th>FMID Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMP/E V3 Base</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HBCNCO0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HBCNDO8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HMP1J00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SMP/E V3 Base</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HBCNCO0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HBCNDO8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total: 1784, Selected: 0

Click the Additional Product Information link and view the IBM Sales Manual description of the product in another tab of your browser session.

 Optionally, you can scroll right, again.
Step 3b: View the “Master” Software Instances’ Additional Product Information
The Additional Product Information link enables you to view the IBM Sales Manual description of the product in another tab of your browser session.

5655-G44 IBM System Modification Program Extended (SMP/E) for z/OS V3.6

IBM United States Sales Manual
Revised: July 12, 2011.

Table of contents

- Product Life Cycle Dates
- Program Number
- Abstract
- Product Positioning
- Highlights
- Description
- Technical Description
- Planning Information
- Security, Auditability, and Control

Product Life Cycle Dates

<table>
<thead>
<tr>
<th>Program Number</th>
<th>VRM</th>
<th>Announced</th>
<th>Available</th>
<th>Marketing Withdrawn</th>
<th>Service Discontinued</th>
</tr>
</thead>
<tbody>
<tr>
<td>5655-G44</td>
<td>3.06.0</td>
<td>2011/07/12</td>
<td>2011/09/30</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>5655-G44</td>
<td>3.05.0</td>
<td>2008/08/05</td>
<td>2008/09/26</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>5655-G44</td>
<td>3.03.0</td>
<td>2004/08/10</td>
<td>2004/09/24</td>
<td>2005/09/30</td>
<td>2007/09/30</td>
</tr>
<tr>
<td>5655-G44</td>
<td>3.02.0</td>
<td>2003/05/13</td>
<td>2003/05/30</td>
<td>2004/09/24</td>
<td>2007/09/30</td>
</tr>
<tr>
<td>5655-G44</td>
<td>3.01.0</td>
<td>2001/09/11</td>
<td>2001/10/26</td>
<td>2003/05/30</td>
<td>2007/03/31</td>
</tr>
</tbody>
</table>
You are going to perform actions against a single Software Instance, so click on the “breadcrumbs”

Click on Software Instances
Now select the “Master” software instance created for this lab.

Click on MASTER_zOS_R13_w/Other_Product software instance
Step 3c: View the “Master” Software Instances’ Properties
First you will view the properties.

Click Actions, then View, then Properties
Multiple tabs are available to view details of this specific software instance. You can see the description, what SMP/E zones are defined, as well as any non-SMP/E managed data sets.

After reviewing the General information, click the SMP/E zones tab.
After reviewing the SMP/E zone information, click Close.

Optionally click the Non-SMP/E Managed Data Sets tab.
You are brought back to the list of "Master" software instances.
Step 3d: View the “Master” Software Instances’ Data Sets
Now you will view Products, Features, and FMIDs just for this instance so that you can see how to drill down deeper in the tables.

Click Actions, then View, then Products, Features, and FMIDs.
Next you will view data sets from viewing Products, Features, and FMIDs

Optionally, you can click to expand the display and see the Product, Feature and FMID information for this software instance (or click Actions, then Expand All)
1. Select the one software instance
   MASTER_zOS_R13_w/Other_Product
2. Then click on Actions, View and then Data Sets
Software Management dynamically analyzes the GLOBAL, target and distribution zones to determine the list of data sets that make up the software instance. The list is limited to those data sets (DDDEFs) that can possibly be updated using SMP/E commands and any non-SMP/E managed data sets that were defined.

Pop-up window with a progress indicator to alert you that this might take a few minutes, and allow you to cancel.
Data sets are displayed in ISPF Data Set List (3.4) like format showing the data sets and its attributes.

After reviewing click the Non-SMP/E Managed Data Sets tab.

You can use filters to identify conforming/non-conforming: data set names, data set placement, possibly based on data set type, data sets with more than one extent, etc. In the lab you will identify data sets with more than one extent.
Information about the non-SMP/E managed data sets is also dynamically retrieved and displayed.

After reviewing click the SMP/E Managed Data Sets tab so you can filter the list.

<table>
<thead>
<tr>
<th>Data Set Name</th>
<th>Messages</th>
<th>Volumes</th>
<th>Data Set Type</th>
<th>RECFM</th>
<th>LRECL</th>
<th>BLKSIZE</th>
<th>Tracks</th>
<th>% Used</th>
<th>Extents</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYS1.PARMLIB</td>
<td></td>
<td>SHAR03</td>
<td>PDS</td>
<td>FB</td>
<td>80</td>
<td>27920</td>
<td>1</td>
<td>100</td>
<td>1</td>
</tr>
<tr>
<td>SYS1.PROCLIB</td>
<td></td>
<td>SHAR03</td>
<td>PDS</td>
<td>FB</td>
<td>80</td>
<td>27920</td>
<td>1</td>
<td>100</td>
<td>1</td>
</tr>
</tbody>
</table>
Click on the filter in the Extents column.
Change the condition to “Greater than” and Enter “1” for the “Value”

Then click OK
With the filter set, you can easily see the 10 (out of 1173) data sets that have secondary extents. You could further filter the Volumes column to identify those data sets with secondary extents that reside on the SYSRES.

Click on the filter in the Extents column
Click on “Clear Filters”
You are back to the original list of data sets. You will now use filtering to verify that all ZFS file systems are on volume SHAR04.

Click on the filter in the Data Set Type column.
Enter “zfs” for the “Text” (case doesn’t matter)

Then click OK
Notice that all data sets are on SHAR04.

Optionally, you can change the filter to only show VSAM data sets (for this instance the SMP/E Global CSI data set), PDSes or PDSEs. Or you can clear the filter to see all data sets.

When you are done viewing data sets, click Close.
View Products, Features, and FMIDs

Products, Features, and FMIDs by Software Instance

<table>
<thead>
<tr>
<th>Software Instance / Product / Feature / FMID</th>
<th>System</th>
<th>Messages</th>
<th>Product, Feature, and FMID Information Retrieved (Local)</th>
<th>Release</th>
<th>Product ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>MASTER_zOS_R13_w/Other_Product</td>
<td>LOCAL</td>
<td>Filter</td>
<td>Filter</td>
<td>Jan 9, 2013 5:39:55 PM</td>
<td>Filter</td>
</tr>
</tbody>
</table>

Total: 286, Selected: 0

Click Close (again)
Step 4a: Report on “Master” Software Instances’ End of Service
For the first set of reports you will use all “Master” software instances.

Click Actions, then Select All.
You can generate reports about the selected software instances. The End of Service report helps you determine if any of the products contained in your software instances are approaching or have reached their announced end of service support date.

This action:

- Will display additional information, not available through batch SMP/E
- Can be performed against multiple software instances at the same time
- Can be performed against software instances throughout your enterprise
The display shows any product that was in a selected software instance with information about the product’s general availability and end of service.

Note: Products were added to this software instance to show products that have already passed or are approaching their end of service date.
Notice that the scrollable timeline has icons and that any product that has an announced End of Service date has an icon. The table below shows all products.

Legend to describe calendar colors and icons

Icons represented in timeline

After reviewing the Legend, click the “X” to close the pop up window
Hover over an icon and view the flyover help that is available to view product information.
Click Actions, then Expand All
You can see all the software instances where SMP/E (and all the other products) is installed.

Optionally, you can change the filter to only show the products with an announced end of service date.

When you are done with the End of Service report, click Close.
Step 4b: Report on “Master” Software Instances’ SYSMOD Search
Now you will perform a Cross Zone Query on steroids!!!!

The SYSMOD Search capability helps you determine if your software instances contain the SYSMODs in which you are interested. This could be to determine:

- If you already installed the fix that a vendor suggested that you install,
- If you already installed a Red Alert or fix associated with security/integrity APAR
- How many software instances are affected by a specific PTF that went PE

While similar to cross zone query, this action can be performed:

- For multiple SYSMODs at the same time
- Against multiple software instances at the same time
- Against software instances throughout your enterprise
You need to specify the SYSMODs for which to search. You can search for multiple SYSMODs simultaneously. To do so, use a comma, space, or line break to separate each SYSMOD ID. At least one SYSMOD ID is required.

Specify UO01270 and UO01281 in the SYSMOD search list

Then click Search
Pop-up window to alert you that this might take a few minutes, and allow you to cancel, just let it complete.
Results shown in a scrollable tree table. You will have to expand each row to see the actual results.

**Maintenance Reports**

SYSMOD Search

Use this page to search the selected software instances for one or more SYSMODs.

**SYSMOD search list:**

UO01270,UO01281

Search Results

<table>
<thead>
<tr>
<th>Software Instance / Zone Name / SYSMOD</th>
<th>System</th>
<th>Type</th>
<th>FMID</th>
<th>Status</th>
<th>In</th>
</tr>
</thead>
<tbody>
<tr>
<td>Filter</td>
<td>Filter</td>
<td>Filter</td>
<td>Filter</td>
<td>Filter</td>
<td>Filter</td>
</tr>
<tr>
<td>MASTER_SMPEV3.6_WITH_PTF5S</td>
<td>LOCAL</td>
<td>LOCAL</td>
<td>LOCAL</td>
<td>LOCAL</td>
<td>LOCAL</td>
</tr>
<tr>
<td>MASTER_SMPEV3.6_WITHOUT_PTF5S</td>
<td>LOCAL</td>
<td>LOCAL</td>
<td>LOCAL</td>
<td>LOCAL</td>
<td>LOCAL</td>
</tr>
<tr>
<td>MASTER_ZOSV1.12</td>
<td>LOCAL</td>
<td>LOCAL</td>
<td>LOCAL</td>
<td>LOCAL</td>
<td>LOCAL</td>
</tr>
<tr>
<td>MASTER_zOS_R13_w/Other_Product</td>
<td>LOCAL</td>
<td>LOCAL</td>
<td>LOCAL</td>
<td>LOCAL</td>
<td>LOCAL</td>
</tr>
</tbody>
</table>

Total: 55, Selected: 0
Click Actions, then Expand All
In one request, you queried 4 software instances using 2 different GLOBAL zones for 2 SYSMODs. This simple query would take at least 4 user interactions using SMP/E’s cross zone query.
More information is displayed using Software Management; and you can query multiple SYSMODs, across multiple GLOBAL zones, possibly residing in separate sysplexes, possibly even in different locations, at the same time!!!

Using SMP/E’s Cross Zone Query, only 1 SYSMOD at a time can be queried in only 1 GLOBAL zone.

<table>
<thead>
<tr>
<th>Zone</th>
<th>Type</th>
<th>FMID</th>
<th>Status</th>
<th>Date</th>
<th>Time</th>
<th>Rework</th>
</tr>
</thead>
<tbody>
<tr>
<td>DLBLZ12</td>
<td>PTF</td>
<td>HBCNC00</td>
<td>SUP</td>
<td>11.255</td>
<td>08:26:10</td>
<td></td>
</tr>
<tr>
<td>DSMP36</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DSMP36P</td>
<td></td>
<td></td>
<td>SUP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GLOBAL</td>
<td>PTF</td>
<td></td>
<td>REC</td>
<td>12.016</td>
<td>15:23:34</td>
<td></td>
</tr>
<tr>
<td>TGTZ12</td>
<td>PTF</td>
<td>HBCNC00</td>
<td>SUP</td>
<td>11.214</td>
<td>11:28:39</td>
<td></td>
</tr>
<tr>
<td>TSMP36</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TSMP36P</td>
<td></td>
<td></td>
<td>SUP</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Click Actions, then Collapse All
Click Actions, then Select All
Step 4c: Report on “Master” Software Instances’ Missing FIXCAT SYSMODs
The Missing FIXCAT SYSMODs reports helps you identify any unsatisfied hardware or software requisites that are required for a specific category of software fixes.

While similar to REPORT MISSINGFIX, this action:

- Can be performed against multiple software instances at the same time
- Can be performed against software instances throughout your enterprise
Pop-up window to alert you that this might take a few minutes, and allow you to cancel, just let it complete.
Results shown in a scrollable tree table. You will have to expand each row to see the actual results.

Review the list of fix categories and determine which APARs are critical for your installation. Use SMP/E to apply the resolving SYSMODs to the corresponding target zone.

<table>
<thead>
<tr>
<th>Software Instance / Fix Category / FMID / Missing APAR</th>
<th>System</th>
<th>HOLDDATA Received (GMT)</th>
<th>Target Zones</th>
<th>Resolving SYSMODs Received in Global Zone</th>
<th>Resolving SYSMODs Not in Global Zone</th>
<th>FMID Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Filter</td>
<td>Filter</td>
<td>Filter</td>
<td>Filter</td>
<td>Filter</td>
<td>Filter</td>
<td>Filter</td>
</tr>
<tr>
<td>MASTER_SMPEV3.6_WITH_PTFSS</td>
<td>LOCAL</td>
<td>January 16, 2012 15:38:30</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MASTER_SMPEV3.6_WITHOUT_PTFSS</td>
<td>LOCAL</td>
<td>January 16, 2012 15:38:30</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MASTER_ZOSV1.12</td>
<td>LOCAL</td>
<td>January 16, 2012 15:38:30</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MASTER_zOS_R13_wOther_Product</td>
<td>LOCAL</td>
<td>September 28, 2012 11:33:57</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total: 556, Selected: 0

Refresh  Last refresh: Jan 14, 2013 6:26:19 PM
Notice that a second tab was created under Maintenance Reports. You can go back to prior reports by clicking the appropriate tab.
Similar to REPORT MISSINGFIX Output displayed in tree table format

**Maintenance Reports**

Review the list of fix categories and determine which APARs are critical for your installation. Use SMP/E to apply the resolving SYSMODs to the corresponding target zone.

<table>
<thead>
<tr>
<th>Software Instance / Fix Category / FMID / Missing APAR</th>
<th>System Filter</th>
<th>HOLDDATA Received (GMT) Filter</th>
<th>Target Zones Filter</th>
<th>Resolving SYSMODs Received in Global Zone Filter</th>
<th>Resolving SYSMODs Not in Global Zone Filter</th>
<th>FMID Description Filter</th>
</tr>
</thead>
<tbody>
<tr>
<td>MASTER_SMPEV3.6_WITH_PTFS</td>
<td>LOCAL</td>
<td>January 16, 2012 13:36:30</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IBM.Coexistence/z/OS.V1R11</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HMP1J00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AACOEX1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IBM.Coexistence/z/OS.V1R12</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HMP1J00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AACOEX1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IBM.Coexistence/z/OS.V1R13</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HMP1J00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AACOEX1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total: 556, Selected: 0

Refresh Last refresh: Jan 14, 2013 6:26:19 PM
Click Actions, then Collapse All
### Maintenance Reports

Review the list of fix categories and determine which fix categories require resolving SYSMODs.

**Click Actions, then Select All**

<table>
<thead>
<tr>
<th>Fix Category</th>
<th>SYSMOD</th>
<th>HOLDDATA Received (GMT)</th>
<th>Target Zones</th>
<th>Resolving SYSMODs Received in Global Zone</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOCAL</td>
<td></td>
<td>January 16, 2012 15:38:30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LOCAL</td>
<td></td>
<td>January 16, 2012 15:38:30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LOCAL</td>
<td></td>
<td>September 28, 2012 11:33:57</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Total: 55**
Step 4d: Report on “Master” Software Instances’ Missing Critical Fixes
The Missing Critical Fix report helps you determine if any unresolved PE PTFs, HIPERs, or other exception SYSMODOs identified by ERROR HOLDDATA are contained in your software instances, and helps you identify the SYSMODOs that will resolve those exceptions.

While similar to REPORT ERRSYSMODOs, this action:
- Can be performed against multiple software instances at the same time
- Can be performed against software instances throughout your enterprise

Click Actions, Maintenance Reports, then Missing Critical Service
Pop-up window to alert you that this might take a few minutes, and allow you to cancel, just let it complete.
Results shown in a scrollable tree table. You will have to expand each row to see the actual results.

### Maintenance Reports

Review the list of critical service and determine which service are critical for your installation. Use SMP/E to apply the resolving service to the APAR.

<table>
<thead>
<tr>
<th>Software Instance / FMID / Held SYSMOD / Missing APAR</th>
<th>System</th>
<th>HOLDDATA Received (GMT)</th>
<th>Target Zones</th>
<th>Resolving SYSMODs Received in Global Zone</th>
</tr>
</thead>
<tbody>
<tr>
<td>MASTER_SMPEV3.6 WITHOUT_PTF</td>
<td>LOCAL</td>
<td>January 16, 2012 15:23:48</td>
<td>Filter</td>
<td></td>
</tr>
<tr>
<td>MASTER_ZOSV1.12</td>
<td>LOCAL</td>
<td>January 16, 2012 15:23:48</td>
<td>Filter</td>
<td></td>
</tr>
<tr>
<td>MASTER_zOS_R13_w/Other_Product</td>
<td>LOCAL</td>
<td>September 28, 2012 11:33:57</td>
<td>Filter</td>
<td></td>
</tr>
</tbody>
</table>

Total: 149, Selected: 0

[Refresh] Last refresh: Jan 14, 2013 6:35:54 PM
Notice that a third tab was created under Maintenance Reports.

Click Actions, then Expand All
Similar to REPORT ERRSYSMODS Output displayed in tree table format

Review the list of critical service and determine which service are critical for your installation. Use SMP/E to apply the resolving service to the corresponding target zone.

<table>
<thead>
<tr>
<th>Software Instance / FMID / Held SYSMOD / Missing APAR</th>
<th>System</th>
<th>HOLDDATA Received (GMT)</th>
<th>Target Zones</th>
<th>Resolving SYSMODs Received in Global Zone</th>
<th>Resolving SYSMODs Not in Global Zone</th>
<th>Hold Class</th>
<th>Hold Symptom</th>
<th>FMID Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MASTER_SMPEV3.6 WITHOUT_PTFs</td>
<td>LOCAL</td>
<td>January 16, 2012</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>SMP/E Base</td>
</tr>
<tr>
<td>HMP1J00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>BCP Base</td>
</tr>
<tr>
<td>HMP1J00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>BCP Base</td>
</tr>
<tr>
<td>AO14750</td>
<td></td>
<td></td>
<td>TSMF36</td>
<td>UT01286</td>
<td>HIPER</td>
<td></td>
<td></td>
<td>DAL</td>
</tr>
<tr>
<td>MASTER_ZOSV1.12</td>
<td>LOCAL</td>
<td>January 16, 2012</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HBP7770</td>
<td></td>
<td></td>
<td>TGTZ12</td>
<td>UA83547</td>
<td>HIPER</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HBDT770</td>
<td></td>
<td></td>
<td>TGTZ12</td>
<td>UA83547</td>
<td>HIPER</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total: 149, Selected: 0

Refresh

Last refresh: Jan 14, 2013 6:35:54 PM
Now you are going to change the view and add a filter to identify missing HIPERs.
Click on the filter in the Hold Class column
Enter “hiper” for the “Text” (case doesn’t matter)

Then click OK
The table now identifies all missing HIPER fixes.

After you are done reviewing the output, click Actions, then Switch to Tree View.
You will now run a report on a single software instance

Click on MASTER_SMPV3.6_WITHOUT_PTFS software instance
Step 4d: Report on “Master” Software Instances’ Instance Comparison
Click Actions, Maintenance Reports, then Software Instance Comparison
Now you have to identify the software instance to compare to

Click on MASTER_SMPV3.6_WITH_PTFS software instance

After selecting the MASTER_SMPV3.6_WITH_PTFS software instance, click OK
1. Select target zone TSMP36
2. Then click on Actions and Select Zones
A pop-up display allows you to select the target zone in the second software instance.

1. Select target zone TSMP36P
2. Then click OK
Select the Zones to Compare

To compare the selected software instances, z/OSMF needs to know which target zones to compare. Use the Select Zones action in the Active zone in the first software instance. If the Target Zones in Second Software Instance column is blank, the corresponding target zone in the first software instance column is selected.

First software instance: MASTER_SMPEV3.6_WITHOUT_PTF on system LOCAL
Second software instance: MASTER_SMPEV3.6_WITH_PTF on system LOCAL

Target Zones to be Compared

<table>
<thead>
<tr>
<th>Target Zone in First Software Instance</th>
<th>Target Zones in Second Software Instance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Filter</td>
<td>Filter</td>
</tr>
<tr>
<td>TSMP36</td>
<td>TSMP36P</td>
</tr>
</tbody>
</table>

Total: 1, Selected: 1

After reviewing the information, Click OK
Creating the Software Instance Comparison report. This request might take several minutes to complete.

Pop-up window to alert you that this might take a few minutes, and allow you to cancel, just let it complete.
Results shown in a scrollable tree table. You will have to expand each row to see the actual results.

### Maintenance Reports

Review the list of SYSMODs found in the second software instance, but not in the first software instance. If the software instances need to the SYSMODs to the corresponding target zones in the first software instance.

First software instance: MASTER_SMPEV3.6_WITHOUT_PTF on system LOCAL
Second software instance: MASTER_SMPEV3.6_WITH_PTF on system LOCAL

### SYSMODs Not Found in First Software Instance

<table>
<thead>
<tr>
<th>FMID/SYSMOD</th>
<th>Description</th>
<th>Type</th>
<th>Target Zone in First Software Instance</th>
<th>Target Zone in Second Software Instance</th>
<th>SYSMOD Zone</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Filter</td>
<td>Filter</td>
<td>Filter</td>
</tr>
<tr>
<td>HBCNC00</td>
<td>SMP/E Planning and Migration Assistant</td>
<td>Filter</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Software Info Base</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HBCND0B</td>
<td>SMP/E Planning and Migration Assistant</td>
<td>Filter</td>
<td></td>
<td></td>
<td>Filter</td>
</tr>
<tr>
<td></td>
<td>Software Info Base</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HMP1J00</td>
<td>SMP/E Base</td>
<td>Filter</td>
<td></td>
<td></td>
<td>Filter</td>
</tr>
</tbody>
</table>

Total: 16, Selected: 0
Notice that a fourth tab was created under Maintenance Reports.
Similar to REPORT SYSMODs Output displayed in tree table format. The REPORT SYSMODs command only report on GLOBAL zones that are accessible where the command is run. Software Management can compare software instances where either one of them resides ANYWHERE in your enterprise!!!
To prepare for the next report, you will go back to the **Missing Critical Service** tab.

Click on the **Missing Critical Service** tab.

---

**Maintenance Reports**

- SYSMOD Search
- Missing FIXCAT SYSMODs
- Missing Critical Service
- Software Instance Comparison

Review the list of SYSMODs found in the second software instance, which are not in the first software instance. If the software instances need to be updated, update the SYSMODs to the corresponding target zones in the first software instance.

First software instance: MASTER_SMPEV3.6_WITHOUT_PTF on system.

Second software instance: MASTER_SMPEV3.6_WITH_PTF on system.

<table>
<thead>
<tr>
<th>FMID/ SYSMOD</th>
<th>Description</th>
<th>Type</th>
<th>Target Zone in First Software Instance</th>
<th>Target Zone in Second Software Instance</th>
<th>SYSMOD Zone</th>
</tr>
</thead>
<tbody>
<tr>
<td>HBCNC00</td>
<td>SMP/E Planning and Migration Assistant Software Info Base</td>
<td>PTF</td>
<td>TSMP36</td>
<td>TSMP36P</td>
<td>Yes</td>
</tr>
<tr>
<td>UO01301</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HBCND0B</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UO01185</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UO01268</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UR53091</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HMP1J00</td>
<td>SMP/E Base</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UAPR01</td>
<td>USERMOD</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total: 16, Selected: 0
Step 4e: Report on “Master” Software Instances’ Instance Validation
The Software Instance Validation report helps you verify that the software libraries that are associated with a software instance exist and contain the appropriate parts. When you generate the Software Instance Validation report, z/OSMF compares the entries in the SMP/E zones for the software instance to the content of the currently accessible DASD volumes, and reports any discrepancies as errors.

This action:
- Will display additional information, not available through batch SMP/E
- Can be performed against software instances throughout your enterprise

Now you will perform two software instance validation. First the simple one, then the more complex software instance.

1. Make sure the MASTER_SMPV3.6_WITHOUT_PTF5 software instance is selected
2. Then click Actions, Maintenance Reports, then Software Instance Validation
Pop-up window to alert you that this might take a few minutes, and allow you to cancel, just let it complete.
The results are displayed.

Since no errors were discovered, the text “There is no data to display” will be displayed within table.
To prepare for the more complex instance validation, you will need to go back to the Missing Critical Service tab (again).
Select **only** the MASTER_zOS_R13_w/Other_Product software instance
Then click Actions, Maintenance Reports, then Software Instance Validation.
This validation will take a few minutes to complete.

- If you are in a rush, click on Cancel.
- Otherwise, just let it complete.
Note: Errors were introduced in the software instance to show errors. The kinds of validation errors that are identified include DDDEFS pointing to the wrong data sets, file systems not mounted, or …

After reviewing, click Close
Step 5: Report on Products
Software Management

Use this task to view details about your software inventory, including related products, features, FMIDs, data sets, deployments, and SYSMO.

<table>
<thead>
<tr>
<th>Software Instances</th>
<th>Define your software to z/OSMF; deploy software; generate reports about your software.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Products</td>
<td>View a consolidated list of the products included in each software instance.</td>
</tr>
<tr>
<td>Deployments</td>
<td>Deploy a software instance, and manage existing deployments.</td>
</tr>
<tr>
<td>Categories</td>
<td>Create new categories for your software instances and deployments, and manage existing categories.</td>
</tr>
<tr>
<td>Settings</td>
<td>Select the time zone in which to display date and time data. Indicate whether to display or suppress information messages.</td>
</tr>
</tbody>
</table>
A list of installed products is displayed. It can be sorted using ANY column or filtered.

Note: There is no easy way to compile a list of all installed products across your enterprise using SMP/E list commands or query functions.
For example clicking on Product will sort the table based on product name.
The table is now sorted and a triangle point up is now displayed in the Product column heading.

Click on the filter in the End of Service column.
For example, you can filter the list to identify any product with an announced end of service date later than December 31, 2004.

1. Select “Dates from” for the “condition”
2. Enter “12/31/04” for the “Start Date”

Then click OK
Three products that meet the criteria are displayed.

Again, you can click the Additional Product Information link and view the IBM Sales Manual description of the product in another tab of your browser session.
Now you can see where these products are installed by selecting Actions, View and then Software Instances

1. Select each of the three products
2. Then click on Actions, View, and then Software Instances
For each product, **all** the software instances where that product is installed will be displayed.

Note: It is common to have the same product installed in multiple software instances. However, these products with announced end of service dates are only installed in one software instance.
This column shows the system where the software instance is accessible from. Unfortunately for the lab you only have access to one local system.

You can scroll right to see who created and who last modified the software instance.
Select Deployments

Software Management

Use this task to view details about your software inventory, including related products, features, FMIDs, data sets, deployments, and SYSMODs.

Software Instances
- Define your software to z/OSMF; deploy software; generate reports about your software.

Products
- View a consolidated list of the products included in each software instance.

Deployments
- Deploy a software instance, and manage existing deployments.

Categories
- Create new categories for your software instances and deployments, and manage existing categories.

Settings
- Select the time zone in which to display date and time data. Indicate whether to display or suppress information messages.
Same as existing z/OS V1.13 function

Deployments

To deploy a software instance, create a new deployment by selecting New or Copy from the Actions menu.

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
<th>Activity</th>
<th>Categories</th>
<th>Source Software Instance</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEMO_Deployment</td>
<td>This is a sample deployment that may be used for demos.</td>
<td>Completed</td>
<td>Filter</td>
<td>MASTER_SMPEV3.6_WITH_PTFS</td>
<td>LOCAL</td>
</tr>
</tbody>
</table>
To deploy a software instance, create a new deployment by selecting New or Copy from the Actions menu.
The same checklist leads you through the new deployment

**Deployment Checklist**

To deploy a software instance, complete the checklist.

<table>
<thead>
<tr>
<th>Progress</th>
<th>Step</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1. Specify the properties for this deployment.</td>
</tr>
<tr>
<td></td>
<td>2. Select the software instance to deploy.</td>
</tr>
<tr>
<td></td>
<td>3. Select the objective for this deployment.</td>
</tr>
</tbody>
</table>
|          | 4. Check for missing SYSMODs.  
|          |   • View missing SYSMOD reports. |
|          | 5. Configure this deployment. |
|          | 6. Define the job settings. z/OSMF creates the deployment summary and jobs.  
|          |   • View the deployment summary.  
|          |   • View the deployment jobs. |
|          | 7. Specify the properties for the target software instance. |

**Close**
Thank You

Complete your sessions evaluation online at SHARE.org/SanFranciscoEval
z/OSMF Software Management Hands-On Lab

Greg Daynes
IBM Corp.
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Friday, February 8, 2013: 8:00 AM-9:00 AM
Union Square 23-24, Fourth Floor
Session 13070
Additional Information

• z/OS Management Facility website
  • http://ibm.com/systems/z/os/zos/zosmf/

• z/OSMF V1.13 SPE Enhancement webpage
  • http://www-03.ibm.com/systems/z/os/zos/zosmf/enhancements.html

• IBM z/OS Management Facility education modules in IBM Education Assistant
  • http://publib.boulder.ibm.com/infocenter/ieduasst/stgv1r0/index.jsp
    • Scroll down to z/OS Management Facility
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